**3GPP TSG-CT WG1 Meeting #136eC1-22xxxx**

**E-meeting, 12-20 May 2022**

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| *CR-Form-v12.1* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **24.501** | **CR** | **4403** | **rev** | **-** | **Current version:** | **17.6.1** |  |
|  | | | | | | | | |
| *For* [***HE******LP***](http://www.3gpp.org/3G_Specs/CRs.htm#_blank)*on using this form: comprehensive instructions can be found at* [*http://www.3gpp.org/Change-Requests*](http://www.3gpp.org/Change-Requests)*.* | | | | | | | | |
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| ***Proposed change affects:*** | UICC apps |  | ME | **X** | Radio Access Network |  | Core Network |  |

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| ***Title:*** | Clarification on the refreshment on SUCI while using NULL SCHEME | | | | | | | | | |
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| ***Source to WG:*** | Huawei, HiSilicon | | | | | | | | | |
| ***Source to TSG:*** | C1 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | 5GProtoc17 | | | | |  | ***Date:*** | | | 2022-05-04 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | **F** |  | | | | | ***Release:*** | | | Rel-17 |
|  | *Use one of the following categories:* ***F*** *(correction)* ***A*** *(mirror corresponding to a change in an earlier release)* ***B*** *(addition of feature),* ***C*** *(functional modification of feature)* ***D*** *(editorial modification)*  Detailed explanations of the above categories can be found in 3GPP [TR 21.900](http://www.3gpp.org/ftp/Specs/html-info/21900.htm). | | | | | | | | *Use one of the following releases: Rel-8 (Release 8) Rel-9 (Release 9) Rel-10 (Release 10) Rel-11 (Release 11) ... Rel-15 (Release 15) Rel-16 (Release 16) Rel-17 (Release 17) Rel-18 (Release 18)* | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | | According to section C.2 in 33.501 ,  *When using the null-scheme, the SUCI does not conceal the SUPI and therefor the newly generated SUCIs do not need to be fresh.*  But this is not captured in 24.501. In 24.501 whenever te timer T3519 is not running, a fresh SUCI is generated always. This is unncessary. | | | | | | | | |
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| ***Summary of change:*** | | 1. Added a condition that the SUCI is generated only in the case when the UE is not using the null scheme. 2. Corrected in both IDENTITY RESPONSE and DEREGISTRATION REQUEST that when the UE is using null-scheme, there is no need to generate fresh SUCI all the time. It is needed only when there is no stored SUCI. | | | | | | | | |
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| ***Consequences if not approved:*** | | Unnecessary re-generation of SUCI | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 5.4.3.3 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **Y** | **N** |  | | | |  | | |
| ***Other specs*** | |  | **X** | Other core specifications | | | | TS/TR ... CR ... | | |
| ***affected:*** | |  | **X** | Test specifications | | | | TS/TR ... CR ... | | |
| ***(show related CRs)*** | |  | **X** | O&M Specifications | | | | TS/TR ... CR ... | | |
|  | |  | | | | | | | | |
| ***Other comments:*** | |  | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | |  | | | | | | | | |

\* \* \* First Change \* \* \* \*

#### 5.4.3.3 Identification response by the UE

A UE shall be ready to respond to an IDENTITY REQUEST message at any time whilst in 5GMM-CONNECTED mode.

Upon receipt of the IDENTITY REQUEST message:

a) if the Identity type IE in the IDENTITY REQUEST message is not set to "SUCI", the UE shall send an IDENTITY RESPONSE message to the network. The IDENTITY RESPONSE message shall contain the identification parameters as requested by the network; and

b) if the Identity type IE in the IDENTITY REQUEST message is set to "SUCI", the UE shall:

1) if timer T3519 is not running and the UE is not using the "null-scheme" as specified in 3GPP TS 33.501 [24] to generate a SUCI, generate a fresh SUCI as specified in 3GPP TS 33.501 [24], send an IDENTITY RESPONSE message with the SUCI, start timer T3519 and store the value of the SUCI sent in the IDENTITY RESPONSE message; and

2) if timer T3519 is running or the UE is using the "null-scheme" as specified in 3GPP TS 33.501 [24] to generate a SUCI, send an IDENTITY RESPONSE message with the stored SUCI, if any. If the UE is using the "null-scheme" as specified in 3GPP TS 33.501 [24] to generate a SUCI and the UE does not have a stored SUCI, UE shall generate a fresh SUCI, send an IDENTITY RESPONSE message with the SUCI and store the value of the SUCI sent in the IDENTITY RESPONSE message.

\* \* \* next Change \* \* \* \*

##### 5.5.2.2.1 UE-initiated de-registration procedure initiation

The de-registration procedure is initiated by the UE by sending a DEREGISTRATION REQUEST message (see example in figure 5.5.2.2.1). The De-registration type IE included in the message indicates whether the de-registration procedure is due to a "switch off" or not. The access type included in the message indicates whether the de-registration procedure is:

a) for 5GS services over 3GPP access when the UE is registered over 3GPP access;

b) for 5GS services over non-3GPP access when the UE is registered over non-3GPP access; or

c) for 3GPP access, non-3GPP access or both when the UE is registered in the same PLMN over both accesses.

If the UE has a valid 5G-GUTI, the UE shall populate the 5GS mobile identity IE with the valid 5G-GUTI. If the UE does not have a valid 5G-GUTI, the UE shall populate the 5GS mobile identity IE with its SUCI as follows:

a) if timer T3519 is not running and the UE is not using the "null-scheme" as specified in 3GPP TS 33.501 [24] to generate a SUCI, generate a fresh SUCI as specified in 3GPP TS 33.501 [24], send a DEREGISTRATION REQUEST message with the SUCI, start timer T3519 and store the value of the SUCI sent in the DEREGISTRATION REQUEST message; and

b) if timer T3519 is running or the UE is using the "null-scheme" as specified in 3GPP TS 33.501 [24] to generate a SUCI, send a DEREGISTRATION REQUEST message with the stored SUCI, if any. If the UE is using the "null-scheme" as specified in 3GPP TS 33.501 [24] to generate a SUCI and the UE does not have a stored SUCI, UE shall generate a fresh SUCI, send a DEREGISTRATION REQUEST message with the SUCI and store the value of the SUCI sent in the DEREGISTRATION REQUEST message.

If the UE does not have a valid 5G-GUTI and it does not have a valid SUCI, then the UE shall populate the5GS mobile identity IE with its PEI.

If the de-registration request is not due to switch off and the UE is in the state 5GMM-REGISTERED or 5GMM-REGISTERED-INITIATED, timer T3521 shall be started in the UE after the DEREGISTRATION REQUEST message has been sent. The UE shall enter the state 5GMM-DEREGISTERED-INITIATED.

If the UE is to be switched off, the UE shall try for a period of 5 seconds to send the DEREGISTRATION REQUEST message. During this period, the UE may be switched off as soon as the DEREGISTRATION REQUEST message has been sent.



Figure 5.5.2.2.1.1: UE-initiated de-registration procedure

\* \* \* next Change \* \* \* \*

\* \* \* next Change \* \* \* \*

\* \* \* End of Change \* \* \* \*